

ABSTRACT

A method of gasifying a liquid material that is entrained with a carrier gas includes mixing liquid material with a carrier gas in a control valve that can be heated. The gas-liquid mixture is maintained at a first pressure level that is sufficiently higher than the pressure level downstream of a nozzle in the valve to thereby provide a total gasification of the gas-liquid mixture. The control valve can position the liquid in a reservoir radially outward from a valve seat and an elongated mixing chamber can be positioned within the valve seat and connected to both a carrier gas and the release nozzle.